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Date	April 6, 2007
To	Ms. Munroe
Of	Board of Patent Appeals and Interferences
Fax	571-273-1651
From	Brian K. Shelton
Subject	USSN 09/214,865 - Yoshihiko Takishita Copy of Appeal Brief Filed February 15, 2007
Our Ref	Q52837
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Per your telephone call, please find enclosed a copy of the Appeal Brief filed February 15, 2007.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

YOSHIHIKO TAKISHITA

Docket No: Q52837

Appln. No.: 09/214,865

Group Art Unit: 2857

Confirmation No.: 8105

Examiner: Anthony Gutierrez

Filed: January 14, 1999

For: ULTRASONIC INSPECTION SYSTEM AND MANAGEMENT SYSTEM THEREOF

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37
Application Serial No. 09/214,865
Attorney Docket No. Q52837

I. REAL PARTY IN INTEREST

The real party in interest is HITACHI CONSTRUCTION MACHINERY CO., LTD., the assignee of the present application. The assignment was recorded on January 14, 1999, at Reel 010145, Frame 0651.

II. RELATED APPEALS AND INTERFERENCES

Upon information and belief, there are no other prior or pending appeals, interferences or judicial proceedings known to Appellant's Representative or the Assignee that may be related to, be directly affected by, or have a bearing on the Board's decision in the Appeal.

III. STATUS OF CLAIMS

Claims 1, 3-7, 9-20, 26-30 and 39-54 are pending in the application. Claims 2, 8, 21-25 and 31-38 were previously cancelled, while claims 16-20, 26-30 and 39-45 were withdrawn from further consideration by virtue of Appellant's Response to Election Requirement filed May 22, 2003.

Of the pending claims, claims 1, 3-7, 9-15, and 46-54 stand rejected and are all the claims that are the subject of the present appeal. Specifically, claims 1, 3, 11, 14, 49, 50, 53, and 54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanda et al. (U.S. Patent No. 5,348,013) in view of Wood et al. (U.S. Patent No. 5,715,823); claims 4-7, 46-48, 51 and 52 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanda in view of Lather et al. (U.S. Patent No. 4,240,281); claims 9, 10, 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanda in view of La Pierre (U.S. Patent No. 5,951,611); and claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanda in view of Senba (JP-40310859).

Claims 1, 3-7, 9-15, and 46-54 are set forth in their entirety in the Claims Appendix, attached to this Brief on Appeal.

IV. STATUS OF AMENDMENTS

The Response Under 37 C.F.R. § 1.116 filed August 16, 2006 presented no amendments to the claims. An Advisory Action was issued on December 15, 2006, which indicated Appellant's Response was considered.

There are no outstanding, non-entered amendments of the claims in the instant application.

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V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following is a concise explanation of the subject matter defined in each of the independent claims and each separately argued dependent claim involved in the instant appeal.

For the Board's convenience, Appellant will first describe the relevant art (pages 1-6 of the Specification), and then independent claims 1 and 11 and dependent claims 9 and 10 with reference to the exemplary embodiments of the inventions (pages 6-50 of the Specification). This discussion of the exemplary embodiments and the pending claims is provided for explanatory purposes only, and is not intended to limit the scope of the claims.

Generally, the invention relates to management of ultrasonic inspection systems for storing various data pieces provided by each of a plurality of ultrasonic inspection systems or for performing required processing based on the data pieces. *See* Specification at page 1.

The Related Art

An ultrasonic inspection system typically includes at least one probe, a transmission/reception circuit that excites a piezoelectric vibrator in the probe to emit a transmitted signal and then amplifies the corresponding return signal, and a waveform processing circuit that processes the received signal. *See., e.g.*, Fig. 1. The processed signal may then be displayed by the ultrasonic inspection system and further analysis of the ultrasonic inspection may be carried out. *See* Specification at pages 1-2.

More than one probe may be utilized in certain ultrasonic inspection devices. For instance, in the case of an array probe, several hundred minute vibrators may be arranged in a single unit. Further, in a steel line applications, multiple probes may be arranged at various points along the line. However, as the number of probes in a particular application increases, the amount of data that must be processed and stored becomes very large, and the cost of system implementation is necessarily increased. *See* Specification at page 3.

In such applications where multiple probes are utilized, maintenance issues are also compounded, as in the case where a determination must be made as to which of the probes degraded in operation or has failed outright. The expense associated with maintenance of a typical system can be significant, as multiple visits to an inspection site by maintenance personnel may be required to adequately diagnose the condition and replace defective probes. *See* Specification at pages 3-4. Moreover, the probes themselves are prone to breaking due to the nature of their construction, and the quality among the probes may vary leading to performance degradation at different and unpredictable rates. *See* Specification at pages 5-6.

The above and other factors have given rise to increased complexity and cost associated with ultrasonic inspection applications in related art approaches.

Claim 1

Claim 1 is directed to an ultrasonic inspection system management system. The claim recites multiple ultrasonic inspection systems (Fig. 2, $A_1 \sim A_n$) each including a probe (Fig. 3,

probe 1) and a system main body (Fig. 3, 100) , a host computer (Fig. 2, computer C), a transmission line (e.g., Fig. 2, network bus N_B) for connecting the multiple ultrasonic inspection systems and the host computer, and a data storage section (Fig. 2, storage section M). *See* Specification at page 11, line 14 - page 12, line 7.

The host computer comprises data collection means for collecting data provided by the multiple ultrasonic inspection systems via the transmission line and storing the data in the data storage section. *See* Specification at page 13, line 13 - page 14, line 5; *see also* page 15, lines 7-13.

In addition, claim 1 recites the data provided by the multiple ultrasonic inspection systems is stored in the single data storage section (e.g., Storage Section M), wherein the data is specimen inspection data and wherein the host computer further includes a determination means for analyzing the specimen inspection data and determining whether or not a specimen contains a defect. *See* Specification at page 14, lines 5-15.

Claim 1 also recites the features of the data is reception level data and the host computer further includes a reception level comparison means for comparing most recent data of the reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value. *See* Specification at page 18, line 21 - page 20, line 20; *see also* page 21, line 17 - page 22, line 19, page 25, line 20 - page 27, line 19 and Fig. 8.

Claim 11

Claim 11 is directed to an ultrasonic inspection system management system. The claim recites multiple ultrasonic inspection systems (Fig. 2, $A_1 \sim A_n$) each including a probe (Fig. 3, probe 1) and a system main body (Fig. 3, 100), a host computer (Fig. 2, computer C), a transmission line (e.g., Fig. 2, network bus N_B) for connecting the multiple ultrasonic inspection systems and the host computer, and a data storage section (Fig. 2, storage section M). See Specification at page 11, line 14, - page 12, line 7).

As further recited by claim 11, the host computer comprises data collection means for collecting data provided by the multiple ultrasonic inspection systems the transmission line and storing the data in the data storage section. *See* Specification at page 13, line 13 - page 14, line 5; *see also* page 15, lines 7-13.

Additionally, claim 11 recites the data provided by the multiple ultrasonic inspection systems is stored in the single data storage section (e.g., Storage Section M), wherein the data is specimen inspection data and the host computer further includes a determination means for analyzing the specimen inspection data and determining whether or not a specimen contains a defect. *See* Specification at page 14, lines 5-15.

Claim 11 also recites the features of at least one of the ultrasonic inspection systems (Fig. 2, $A_1 \sim A_n$) comprises inspection system reception level comparison means for comparing most recent data of reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value. *See*

Specification at page 25, line 20 - page 27, line 19 and Fig. 8. Further, the data collected by the data collection means of the host computer is data of a comparison result of the inspection system reception level comparison means. *See* Specification at page 28, lines 10-20.

Dependent Claim 9

Claim 9 depends from claim 1 and recites the data is reception level data and the host computer further includes change comparison means for comparing a difference or a change ratio between most recent data of the reception level data and its immediately preceding reception level data with a predetermined change setup value. *See* Specification at page 24, line 24 - page 27, line 19; *see also* Figs. 7-8.

Dependent Claim 10

Claim 10 depends from claim 1 and recites the data is reception level data and the host computer further includes reception level comparison means for comparing most recent data of the reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value. *See* Specification at page 27, line 7 - page 28, line 5.

As further recited by claim 10, the host computer also includes change comparison means for comparing a difference or a change ratio between the most recent data and its immediately preceding reception level data with a predetermined change setup value when said reception

level comparison means determines that the most recent data or the average is greater than the reception level setup value. *See* Specification at page 24, line 24 - page 27, line 19; *see also* Figs. 7-8.

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VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claim 1 is unpatentable under 35 U.S.C. § 103(a) over Kanda et al. (U.S. Patent No. 5,348,013) in view of Wood et al. (U.S. Patent No. 5,715,823);

B. Whether claim 11 is unpatentable under 35 U.S.C. § 103(a) over Kanda et al. (U.S. Patent No. 5,348,013) in view of Wood et al. (U.S. Patent No. 5,715,823);

C. Whether claims 9 and 10 are unpatentable under 35 U.S.C. § 103(a) over Kanda in view of La Pierre (U.S. Patent No. 5,951,611); and

For purposes of this appeal, the rejection of claim 1 over Kanda in view of Wood and the rejection of claim 11 over Kanda and Wood are separately argued, and the rejection of claims 9 and 10 Kanda in view of La Pierre stand together, as indicated above and by the separate headings in the following section.

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VII. ARGUMENT

At least for the reasons discussed below, Appellant submits that the rejections of the claims on appeal are improper, and reversal of each ground of rejection is requested. Appellant turns now to the rejections at issue:

A. The rejection of independent claim 1 is improper because the Examiner has failed to establish *prima facie* obviousness.

As demonstrated below, the Examiner has improperly rejected independent claim 1 at least because the combined teachings of Kanda et al. ("Kanda") and Wood et al. ("Wood) do not teach all the claim elements and the Examiner has failed to provide a sufficient motivation to combine Kanda and Wood. The rejection of claim 1, and all claims dependent therefrom, is therefore improper, as *prima facie* obviousness has not been established.

1. Even assuming the Examiner's asserted motivation to combine were proper, the combined teaching of Kanda and Wood would not teach all the claim elements.

With respect to the ultrasonic inspection system management system defined by claim 1, the combination of Kanda and Wood fails to teach or suggest *at least* the features of the host computer, connected to multiple inspection systems by a transmission line, which includes "*determination means* for analyzing the specimen inspection data and determining whether or not a specimen contains a defect" and "*reception level comparison means* for comparing most

recent data of the reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value", as claimed.

Kanda, as Appellant has discussed previously, merely suggests a ***self-contained*** ultrasonic diagnostic apparatus, but does not suggest that the ultrasonic diagnostic apparatus is in any manner connected to a "host" computer by a transmission line. *See* Response Under 37 C.F.R. § 1.116 filed August 16, 2006 (hereinafter "Response") at pages 2-3. Rather, the ultrasonic diagnostic apparatus of Kanda is a self-contained unit, in which the detection and processing of the ultrasonic signals are necessarily performed within the apparatus itself, as clearly evidenced by the probe 2, display system 10, signal correction system 20, phase detecting section 30, which are all provided in a single unit. *See, e.g.* Kanda at col. 6, lines 48 - col. 8, line 1 and Fig. 5.

Further, the "computer" identified by the Examiner in the grounds of rejection is simply the CPU 24, or the central processing unit, of Kanda's self-contained diagnostic apparatus. This deficiency is apparently acknowledged by the Examiner, as evidenced by the assertion that "Kanda et al [*sic*] does not teach the computer being a 'host' computer and does not teach a plurality of inspection systems being connected to a host computer through a transmission line." *See* Final Office Action issued May 16, 2006 (hereinafter "Final Office Action') at page 2.

To compensate for the deficiencies of Kanda, the Examiner turns to Wood, which is alleged to teach "a host computer connected to a plurality of ultrasonic inspection systems (fig. 16), each with its own storage unit (fig. 1, part 24), and the ultrasonic inspection system

receiving reception level data (fig. 1, part 12 & col. 2, lines 62+) and transferring this data to the host (col. 13, lines 1-5)." *See* Final Office Action at page 2.

Further, although the Examiner concedes that "Wood does not specify the data being compared to a predetermined value", the Examiner nonetheless proceeds to allege, in a conclusory manner, that it would have been obvious "to modify Kanda et al, so that multiple inspection systems are connected together and the data transferred to a main unit or host computer, as taught by Wood et al, in order to improve efficiency and cut costs by operating a plurality of systems from a main host unit." *See* Final Office Action at page 3.

In numerous aspects, the Examiner's rejection of claim 1 is deficient. For instance, as Appellant discussed in the Response Under 37 C.F.R. § 1.111 filed March 1, 2006 and reiterated in the most recent Response of August 16, 2006, Wood simply teaches remotely accessing and controlling an ultrasound imaging system, which is connected to a Hyper Text Transport Protocol (HTTP) server 30 and accessed via a "commercially available Web browser" at a remotely located personal computer 100. *See* Response at pages 3-4; *see also* Wood at col. 3, lines 18-39. As taught by Wood, ultrasonic images that are "obtained from the ultrasound system's image store 24a" are simply transmitted to the remote PC and displayed in response to a request for the images which is transmitted by the web browser. *See* Wood at col. 9, line 40 -col. 10, line 8.

The remaining disclosure of Wood does not suggest the above-noted features of claim 1 that are deficient. For instance, Wood teaches that the web browser may be configured to

remotely operate "mode control switches" of the ultrasonic diagnostic apparatus, which allows the parameters of the ultrasonic diagnostic apparatus, such as "2D and Color modes" to be selected from the web browser by transmitting commands to the diagnostic apparatus via the HTTP server. *See* Wood at col. 11, line 25 - col. 12, line 7.

However, the remote display of images that are simply transferred as stored image files to a web browser and transmission of mode control commands to a remote diagnostic unit does not suggest either the *determination means* or the *reception level comparison means* of the host computer, as defined by claim 1. More succinctly, Wood does not suggest any processing that would be performed on the "commercially available personal computer (PC) 100" executing the "commercially available Web browser 104" that could reasonably be analogized to the *reception level comparison means* of the claimed host computer, for comparing most recent data of the reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value. *See* Wood at col. 3, lines 30-39. Wood likewise does not suggest any processing on its commercially available PC analogous to the claimed determination means.

As discussed in the prior Response, the Examiner's statements serve to underscore the deficiencies of the combination of Kanda and Wood. *See* Response at pages 4-5. For instance, in response to the arguments that Kanda and Wood fails to teach *reception level comparison means* of the host computer, the Examiner contends that the "previous Office Action included the citation of col. 26, lines 13-18 & 54-57 of Kanda et al., to address this limitation." *See* Office

Action at pages 5-6. However, the portions cited to by the Examiner merely refer to a determination of whether phase distortion detection is effectively performed by a self-contained ultrasonic diagnostic apparatus, which is not connected to any "host computer", as discussed above.

As to the feature of the *determination means* of the host computer "for analyzing the specimen inspection data and determining whether or not a specimen contains a defect", the combination of Kanda and Wood also does not teach this element of claim 1. Kanda's self contained diagnostic unit would necessarily teach that any analysis of specimen data would be performed on the diagnostic unit itself. Wood, on the other hand, cannot reasonably be relied upon for any teaching beyond remote display of ultrasonic images on the "commercially available web browser" executing on its "commercially available personal computer", and the simple selection of "mode control switches" by accepting an input to this browser.

Even if these two teaching are combined, there is no suggestion for the claimed determination means. Thus, the Examiner has impermissibly supplemented the actual disclosures of Kanda and Wood to compensate for the significant shortcomings of the references themselves.

Moreover, the Examiner's remarks in the Response to Arguments are plainly inconsistent with the grounds of rejection, in which the Examiner concedes that Kanda neither teaches "the computer being a 'host' computer" nor "a plurality of inspection systems being connected to a host computer through a transmission line." *See* Office Action at page 2. These inconsistencies

notwithstanding, Kanda simply does not suggest that the ultrasonic diagnostic apparatus is connected to any host, nor does Kanda suggest any processing of data being performed anywhere other than on a ***self-contained diagnostic apparatus***. See Response at page 5.

Further, as Wood simply teaches that stored images can be displayed on a remote web browser while mode control commands can be transmitted to a remote apparatus via the web browser interface, Wood likewise fails to suggest either determination means or reception level comparison means, as claimed, of a host computer connected to a plurality of ultrasonic inspection systems via a transmission line, which are deficient in Kanda.

In the Advisory Action, additional evidence of the insufficiency of the teachings of Kanda and Wood can be readily ascertained from the Examiner's remarks. To wit, the Examiner asserts:

> The Examiner maintains that the COMBINATION of Kanda et al. and Wood et al. teach Applicant's claimed invention. The Examiner maintains that it is not necessary for Kanda et al. to teach the use of a host computer because *one of ordinary skill in the art would have found it obvious to employ the teachings of Kanda et al. as a host computer in view of the system of Wood et al.* Once one of ordinary skill in the art would have combined the teachings of these references, the invention would have provided a host computer with the determination or reception level means. That is why the Examiner continues to maintain that Applicant's response continues to rely on a *piecemeal interpretation* of the references.

See Advisory Action at page 2 (emphasis added).

Wood cannot properly be relied upon for more than it would objectively teach or suggest to one of ordinary skill in the art. As demonstrated above, Wood teaches remote display of

images that are transferred as stored image files to a "commercially available web browser" and the transmission of mode control commands, via this commercially available web browser, to a remote diagnostic unit. Kanda's teaching of a self-contained diagnostic unit is devoid of any suggestion for remote operation. The Examiner's contention that "one of ordinary skill in the art would have found it obvious to employ the teachings of Kanda et al. as a host computer in view of the system of Wood et al." is not based on any reasonable interpretation of the actual disclosure of these references and the rejection is therefore plainly untenable.

Therefore, even assuming *arguendo* that Wood and Kanda were combined, the combination would fail to teach or suggest all the features of claim 1. Appellant also disagrees with the Examiner's mischaracterization of the arguments presented in the previous Response as "arguments against the references individually" or the so-called "piecemeal interpretation". *See* Office Action at page 7; *see also* Advisory Action at page 2.

In reply to this allegation, Appellant does not dispute that non-obviousness cannot be shown by attacking references individually where the rejections are based on combinations of references. However, Appellant's previous showing, as well as the explanation provided above, cannot fairly be characterized as a attack on the references individually. Rather, the relevant inquiry in this instance is whether the combination teaches all the claim limitations, and Appellant has demonstration that the combination of Kanda and Wood would simply not teach all the limitations of claim 1. As such, the rejection of claim 1 is improper.

2. The asserted motivation to combine Kanda and Wood is improperly based on impermissible hindsight reconstruction.

A showing of *prima facie* obviousness also requires that there must be some suggestion or motivation to combine the teachings of Kanda and Wood. In this case, however, the rejection of claim 1 is also defective because the Examiner's asserted motivation is impermissibly based on hindsight reconstruction. For instance, the Examiner contends that it would have been obvious to combine Kanda and Wood "in order to improve efficiency and cut costs by operating a plurality of systems from a main host unit." *See* Office Action at page 3.

However, in the Final Office Action, the Examiner does not identify any support for such an assertion in the disclosure of the references themselves. As discussed in the previous Response, Appellant disagrees that such nebulous alleged benefits as improving efficiency and cutting costs are reasonably suggested by either Kanda or Wood. *See* Response at pages 6-7. To the contrary, both Kanda and Wood *teach away* from the claimed invention. For instance, Kanda teaches a ***self-contained*** ultrasonic diagnostic unit, which is not connected to any "host computer", and the system of Wood teaches that all the diagnostic processing is performed ***on the remote units themselves***. Thus, the Examiner has impermissibly relied on hindsight gleaned solely from Applicant's disclosure, and not the objective teachings of the applied references, as an improper motivation to combine.

In this regard, Appellant notes that the Examiner contends that the titles of Kanda and Wood are sufficient to establish the requisite teaching, suggestion or motivation to combine:

> The Examiner maintains that the motivation to combine the references is proper and does not rely on hindsight. Further support for the reasons already provided for the combination includes analysis of the titles of the references. The titles show that Kanda et al. teaches a HIGH QUALITY IMAGE ULTRASONIC DIAGNOSTIC apparatus and that Wood et al. teaches UNIVERSAL ACCESS to ULTRASONIC DIAGNOSTIC IMAGES. The Examiner maintains that one of ordinary skill in the ULTRASONIC DIAGNOSTIC art would have recognized that UNIVERSAL ACCESS to HIGH QUALITY IMAGES would have been beneficial.

See Advisory Action at page 2.

The Examiner's reliance on the **titles** as evidence of a motivation to combine is a specious proposal indeed. In rejections under 35 U.S.C. § 103, the inquiry is "whether a person of ordinary skill in the art, possessed with the understandings and knowledge reflected in the prior art, and motivated by the general problem facing the inventor, would have been led to make the combination recited in the claims." In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). Moreover, "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." In re Kahn, 441 F.3d at 987-88 (quoting In re Kotzab, 217 F.3d 1365, 1370 (Fed. Cir. 2000)). Deficiencies of cited references cannot be remedied by "general conclusions about what is 'basic knowledge' or 'common sense.'" In re Zurko, 59 U.S.P.Q.2d 1694, 1697 (Fed Cir. 2001); *see also* In re Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Further, as explained in M.P.E.P. § 2144.03, "[i]t is never appropriate to rely solely

on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based."

The USPTO is held to a rigorous standard when trying to show that an invention would have been obvious in view of the combination of two or more references or modification of a single reference. *See* In re Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002), *citing, e.g.*, In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *see also* Alza Corp. v. Mylan Lab., Inc., 434 F.3d 1286, 1290 (Fed. Cir. 2006) ("At its core, our anti-hindsight jurisprudence is a test that rests on the unremarkable premise that legal determinations of obviousness, as with such determinations generally, should be based on evidence rather than mere speculation or conjecture.").

The case law emphasizes that the "need for specificity pervades this authority." In re Lee 277 F.3d at 1433 (*citing* In re Kotzab, 217 F.3d at 1371 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"). Moreover, "even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill in the art, that suggests the claimed invention." In re Rouffet, 149 F.3d 1350, 1359 (Fed. Cir. 1998).

In the present case, however, no such specific findings have been made, nor has the Examiner identified any principle that would suggest the claimed invention. Rather, the Examiner alleges, in a conclusory manner, that combining Wood with Kanda would somehow "improve efficiency and cut costs by operating a plurality of systems from a main host unit" and supplements this unsubstantiated assertion by mere reference to the titles of the references, which evinces the impermissible hindsight reconstruction upon which the rejection of claim 1 is improperly based.

At least for the reasons set forth above, the Examiner has failed to establish *prima facie* obviousness with respect to the rejection of claim 1 because the combination of Kanda and Wood does not teach all the claim limitations and the motivation to combine is improper. Reversal of the rejection of claim 1, as well the rejections of claims 3-7, 9-10, 12-15, and 46-54, which are dependent therefrom, is respectfully requested.

B. The Examiner has also failed to establish *prima facie* obviousness with respect to the rejection of claim 11.

With respect to the ultrasonic inspection system management system defined by independent claim 11, the Examiner has again failed to establish *prima facie* obviousness at least because the combination of Kanda in view of Wood does not teach all the claim limitations and the Examiner has improperly relied on hindsight reconstruction based on hindsight gleaned solely from the Appellant's disclosure, and not the objective teachings of the references, to form their combination.

For instance, neither Kanda nor Wood, whether taken alone or in combination, teaches or suggests at least the feature of the host computer includes a *determination means* for analyzing the specimen inspection data and determining whether or not a specimen contains a defect, as recited by claim 11. Kanda's self contained diagnostic unit, as discussed above, would necessarily teach that any analysis of specimen data would be performed on the diagnostic unit itself. Wood, simply teaches remote display of ultrasonic images on the "commercially available web browser" executing on its "commercially available personal computer", and the simple selection of "mode control switches" by accepting an input to this browser.

Thus, even assuming one of ordinary skill in the art would have been motivated to combine these teachings, there is no suggestion for the claimed determination means. Rather, as pointed out previously, the Examiner has impermissibly supplemented the actual objective teachings of Kanda and Wood to compensate for significant shortcomings of the references themselves.

The rejection of claim 11 is also improper because the Examiner's asserted motivation is impermissibly based on hindsight reconstruction. As with claim 1, the Examiner contends that it would have been obvious to combine Kanda and Wood "in order to improve efficiency and cut costs by operating a plurality of systems from a main host unit." *See* Office Action at page 3.

However, as pointed out above, the Examiner does not identify any support for such an assertion in the disclosure of the references themselves in the Final Office Action. As discussed in the previous Response, Appellant disagrees that such nebulous alleged benefits as improving

efficiency and cutting costs are reasonably suggested by either Kanda or Wood. *See* Response at pages 6-7. As explained above, Kanda teaches a ***self-contained*** ultrasonic diagnostic unit, which is not connected to any "host computer", and the system of Wood teaches that all the diagnostic processing is performed ***on the remote units themselves***.

Again, the Examiner has impermissibly relied on hindsight gleaned solely from Appellant's disclosure, and not the objective teachings of the applied references, as an improper motivation to combine. As such the rejection of claim 11 is in error at least because the motivation to combine is legally insufficient and the combination of Kanda and Wood would fail to teach *at least* the feature of the determination means of the host computer. Reversal of the rejection of independent claim 11 is therefore requested.

C. The rejection of dependent claims 9 and 10 is also in error because the Examiner has again failed to establish *prima facie* obviousness.

As to dependent claims 9 and 10, neither Kanda nor La Pierre, whether taken alone or in combination, would teach or suggest at least the feature of the host computer "further includes change comparison means for comparing a difference or a change ratio between most recent data of the reception level data and its immediately preceding reception level data with a predetermined change setup value", as respectively recited by these claims.

As an intial matter, Appellant notes that the rejection of claims 9 and 10 is facially defective as the the Examiner has failed to include Wood in the rejection, nor has the Examiner

provided a motivation that contemplates further modifying the combination of Kanda in view of Wood, which was relied upon in the rejection of parent claim 1.

However, even assuming for the sake of argument alone that the Examiner intended to rely on Kanda in view of Wood, further in view of La Pierre, the combination of these references would still fall short of teaching at least the above-noted feature of claims 9 and 10. For reasons analagous to those discussed above with respect to claim 1, neither Kanda nor Wood, whether taken alone or in combination, reasonably teaches any processing on a "host computer" beyond the simple display of ultrasonic images to a "commercially available web browser". La Pierre, even if combined with Kanda and Wood, would clearly not remedy this substantial shortcoming.

For instance, La Pierre teaches diagnostic trend analysis for "jet aircraft engines" to analyze "engine trend data to evaluate overall engine performance." *See* La Pierre at col. 1, lines 4-6. La Pierre teaches that "multiple trend paramcters" are used in order to perform parametric filtering methodology, in which each trend paramenter used "is an indicator of overall engine performance or gas path health." *See* La Pierre at col. 2, lines 31-36.

Regardless of the Examiner's efforts to distort La Pierre's analytical method beyond its disclosed application to monitoring jet aircraft engines, La Pierre would not suggest any modification to either Kanda's self-contained diagnostic unit or to Wood's "commercially avaialable web browser", even assuming they would have been combined, such as to suggest a host computer having *change comparison means* for comparing a difference or a change ratio

between most recent data of the reception level data and its immediately preceding reception level data with a predetermined change setup value.

Thus, the rejection of claims 9 and 10 is additionally improper because "Kanda in view of La Pierre" does not teach or suggest all the features of these claims, and the Examiner has failed to establish *prima facie* obviousness with respect to these dependent claims.

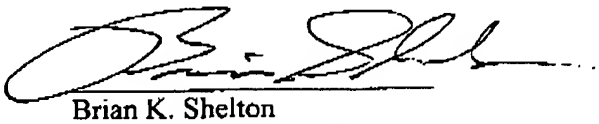
Conclusion

At least for the foregoing reasons, Appellant submits that the rejections are in error and reversal by the Board is respectfully requested.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: **February 15, 2007**

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
Application Serial No. 09/214,865
Attorney Docket No. Q52837

CLAIMS APPENDIX

CLAIMS 1, 3-7, 9-15 and 46-54 ON APPEAL:

Claim 1. An ultrasonic inspection system management system comprising:

multiple ultrasonic inspection systems each including a probe and a system main body,

a host computer,

a transmission line for connecting said multiple ultrasonic inspection systems and said host computer, and

a data storage section, characterized in that said host computer comprises data collection means for collecting data provided by said multiple ultrasonic inspection systems via said transmission line and storing the data in said data storage section;

wherein the data provided by said multiple ultrasonic inspection systems is stored in the single data storage section;

wherein the data is specimen inspection data and wherein said host computer further includes a determination means for analyzing the specimen inspection data and determining whether or not a specimen contains a defect; and

wherein the data is reception level data and wherein said host computer further includes a reception level comparison means for comparing most recent data of the reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value.

Claim 3. The ultrasonic inspection system management system as claimed in claim 1 wherein at least one of said ultrasonic inspection systems comprises inspection system determination means for analyzing and determining specimen inspection data and wherein the data collected by said data collection means of said host computer is data of a determination result of said inspection system determination means.

Claim 4. The ultrasonic inspection system management system as claimed in claim 1 wherein the data is first test data provided when said probe of a specific one of said ultrasonic inspection systems is connected to said system main body and second test data provided when said probe is disconnected from said system main body and wherein said host computer further includes command signal output means for outputting command signals for obtaining the first test data and the second test data and abnormal point determination means for determining whether or not said probe in said specific ultrasonic inspection system is abnormal based on the first test data and the second test data.

Claim 5. The ultrasonic inspection system management system as claimed in claim 4 wherein said probe is connected to and disconnected from said system main body by a switch device turned on and off as instructed by said host computer.

Claim 6. The ultrasonic inspection system management system as claimed in claim 1 wherein at least one of said ultrasonic inspection systems comprises inspection system abnormal point determination means for determining whether or not said probe in said ultrasonic inspection system is abnormal based on first test data provided when said probe is connected to said system main body and second test data provided when said probe is disconnected from said system main body and wherein the data collected by said data collection means of said host computer is data of a determination result of said inspection system abnormal point determination means.

Claim 7. The ultrasonic inspection system management system as claimed in claim 4 wherein said probe is connected to and disconnected from said system main body by turning on and off a switch device.

Claim 9. The ultrasonic inspection system management system as claimed in claim 1 wherein the data is reception level data and wherein said host computer further includes change comparison means for comparing a difference or a change ratio between most recent data of the reception level data and its immediately preceding reception level data with a predetermined change setup value.

Claim 10. The ultrasonic inspection system management system as claimed in claim 1 wherein the data is reception level data and wherein said host computer further includes reception level comparison means for comparing most recent data of the reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value and change comparison means for comparing a difference or a change ratio between the most recent data and its immediately preceding reception level data with a predetermined change setup value when said reception level comparison means determines that the most recent data or the average is greater than the reception level setup value.

Claim 11. An ultrasonic inspection system management system comprising:

multiple ultrasonic inspection systems each including a probe and a system main body.

a host computer,

a transmission line for connecting said multiple ultrasonic inspection systems and said host computer, and

a data storage section, characterized in that said host computer comprises data collection means for collecting data provided by said multiple ultrasonic inspection systems via said transmission line and storing the data in said data storage section;

wherein the data provided by said multiple ultrasonic inspection systems is stored in the single data storage section;

wherein the data is specimen inspection data and wherein said host computer further includes a determination means for analyzing the specimen inspection data and determining whether or not a specimen contains a defect; and

wherein at least one of said ultrasonic inspection systems comprises inspection system reception level comparison means for comparing most recent data of reception level data or an average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value and wherein the data collected by said data collection means of said host computer is data of a comparison result of said inspection system reception level comparison means.

Claim 12. The ultrasonic inspection system management system as claimed in claim 1 wherein at least one of said ultrasonic inspection systems comprises inspection system change comparison means for comparing a difference or a change ratio between most recent data of reception level data and its immediately preceding reception level data with a predetermined change setup value and wherein the data collected by said data collection means of said host computer is data of a comparison result of said inspection system change comparison means.

Claim 13. The ultrasonic inspection system management system as claimed in claim 1 wherein at least one of said ultrasonic inspection systems comprises inspection system reception level comparison means for comparing most recent data of reception level data or an

average of continuous reception level data pieces containing the most recent data with a predetermined reception level setup value and inspection system change comparison means for comparing a difference or a change ratio between the most recent data and its immediately preceding reception level data with a predetermined change setup value when said inspection system reception level comparison means determines that the most recent data or the average is greater than the reception level setup value and wherein the data collected by said data collection means of said host computer is data of comparison results of said inspection system reception level comparison means and said inspection system change comparison means.

Claim 14. The ultrasonic inspection system management system as claimed in claim 1 wherein said data collection means comprises probe data reception means for receiving data of said probe of a specific one of said ultrasonic inspection systems.

Claim 15. The ultrasonic inspection system management system as claimed in claim 1, comprising:

wherein the data is predetermined data in components making up said system main body and wherein said host computer further includes component data reception means for receiving the predetermined data of the components.

Claim 46. The ultrasonic inspection system management system as claimed in claim 1 wherein each of said system main bodies comprises an ultrasonic transmission/reception circuit for exciting said probe and receiving a signal therefrom, a waveform processing circuit for processing a signal from said ultrasonic transmission/reception circuit, and a control section for controlling operation of said ultrasonic transmission/reception circuit and said waveform processing circuit, an ultrasonic inspection system diagnosis system comprising positioning means for making said probe opposed to a test object with said probe connected to said ultrasonic transmission/reception circuit, probe excitation means for exciting said probe with said probe opposed to the test object, first data collection means for collecting at least one of data output from said ultrasonic transmission/reception circuit and data output from said waveform processing circuit when said probe is excited by said probe excitation means, test signal output means for feeding a test signal into said ultrasonic transmission/reception circuit with said probe disconnected from said ultrasonic transmission/reception circuit, second data collection means for collecting at least one of data output from said ultrasonic transmission/reception circuit and data output from said waveform processing circuit when a test signal is output by said test signal output means, and determination means for determining whether or not said probe in said ultrasonic inspection system is abnormal based on the output data collected by said first data collection means and said second data collection means.

Claim 47. The ultrasonic inspection system diagnosis system as claimed in claim 46 wherein said probe is connected to and disconnected from said system main body by a switch device.

Claim 48. The ultrasonic inspection system diagnosis system as claimed in claims 46 or 47 wherein the test object is a bottom of a water tank where a specimen of said ultrasonic inspection system is placed and wherein said positioning means is means for moving said probe to a predetermined position on the bottom of the water tank.

Claim 49. The ultrasonic inspection system diagnosis system as claimed in claims 46 further comprising a display section for displaying a determination result of said determination means.

Claim 50. The ultrasonic inspection system management system as claimed in claim 1 wherein each of said ultrasonic inspection systems has an ultrasonic probe data management function for transmitting and receiving ultrasonics with one selected from ultrasonic probes and inspecting a specimen based on a received ultrasonic signal, characterized in that each of said ultrasonic probes is provided with its own storage device for storing general characteristic data of said ultrasonic probe.

Claim 51. The ultrasonic inspection system having an ultrasonic probe data management function as claimed in claim 50 wherein the general characteristic data of said ultrasonic probe stored in said storage device is data at a manufacturing time of said ultrasonic probe and data updated each time said ultrasonic probe is inspected.

Claim 52. The ultrasonic inspection system having an ultrasonic probe data management function as claimed in claims 50 or 51 comprising ultrasonic probe inspection means for executing inspection for getting predetermined characteristic data of said ultrasonic probe and characteristic data read means for storing the characteristic data provided by said ultrasonic probe inspection means in said storage device.

Claim 53. The ultrasonic inspection system having an ultrasonic probe data management function as claimed in claim 50 comprising a storage section for storing the data stored in said storage device.

Claim 54. The ultrasonic inspection system having an ultrasonic probe data management function as claimed in claim 50 comprising a display section for displaying the data stored in said storage device.

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EVIDENCE APPENDIX:

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

NONE.

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RELATED PROCEEDINGS APPENDIX

Submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified about in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

NONE.